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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,155	10/09/2003	Kyu-Hyung Cho	5000-1-473	8205

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EXAMINER	
O CONNOR, BRIAN T	
ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/682,155	CHO ET AL.	
	Examiner	Art Unit	
	Brian T. O'Connor	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/27/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: Claim 4 recites six steps for a switching method, however two of the steps are labeled "(d)". The Examiner believes this is a typographical error but it leaves the claim with some ambiguity as to how the steps are ordered. Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 7-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With respect to claims 7-9, the claimed subject matter is "a memory medium comprising executable code"; this is not viewed a statutory subject matter because the medium cannot be combined with a computer to perform a method or function. Amending the claim to recite a "computer-readable medium comprising executable code" would overcome this rejection. Claims 8 and 9 do not resolve the deficiency of claim 7. The Examiner also suggests the Applicant review the "Interim Guidelines for Statutory Subject Matter" published in the Official Gazette on November 22, 2005.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blahut (US 6,796,555) in view of Kato et al. (US 6,233,255; hereafter Kato) and further in view of Sullivan et al. (US 7,245,585; hereafter Sullivan).

With respect to claim 1, Blahut discloses a system and method for classification of digital channel data from a video server. The disclosed system has an optical network unit, ONU, (106 of Figure 1, 106 of Figure 3) that receives an optical signal (110-1, 111-1 of Figure 1) originated from an optical line terminal, OLT, (103 of Figure 1). The ONU must contain an optical signal converter in order for the ONU to correctly receive optical data and later process the data with several digital processing devices (305, 306 of Figure 3). Blahut's system also has a VC ATM cell classifier for header detection and payload processing (305, 306 of Figure 3; where the VC filter classifies ATM cells by their VC header data and the MPEG2 decoder processing the payload portion of the ATM cells; column 6, lines 21-35). A controller (301, 302, 304 of Figure 3) is employed to direct the ONU to select the broadcast video data according to a subscriber's command (column 6, lines 3-16).

Blahut fails to disclose a group of PID (Program ID) analyzers for processing a portion of the ATM payload cell that corresponds to a single VCC, then extracting the PID for every broadcast channel and outputting the broadcast channel. Blahut also fails to disclose a switch that take multiple broadcast channel data from PID analyzers and

selects the broadcast channel chosen by a subscriber and that the controller updates broadcast channel programming by processing header data from the ATM cells.

Kato discloses a method for processing video broadcast data with packets containing complete descriptions of all program information (Figure 2; Figure 15; Figure 17) and PID information (Figure 2; Figure 14; column 8, lines 50-67; column 9, lines 7-15) and a multiplexer or switch (9 of Figure 13) to select a broadcast channel from a group of broadcast channels (7a, 7b, 7n, 8 of Figure 13; column 1, lines 18-35). Kato's method includes encoding a PID in the header of a packet (Figure 14). One of ordinary skill in the art would realize that using the PID of Kato to perform further filtering of incoming ATM cells as taught in Blahut would be reasonable plausible.

One of ordinary skill in the art would realize the benefit of a simpler and more flexible video broadcast system by replacing the splitter (105 of Figure 1) in Blahut with the processing method of Kato added to the ONU (106 of Figure 1) in Blahut. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the encoding and filtering by PID as taught by Kato to enhance the processing of the video system of Blahut.

However, Blahut fails to specifically disclose virtual channel connections (VCCs) and filtering based on VCCs.

Sullivan discloses an ATM system that uses a optical network fibers (32, 34, 35 of Figure 1; column 4, lines 13-20; column 7, lines 18-22) to route virtual tunnels with virtual channel connections (column 4, lines 64-67).

Sullivan realizes the benefit of differentiated level of services by using virtual tunnels encoded with virtual channel connections (column 2, line 65 – column 3, line 4). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention that the virtual circuits (VCs) of Blahut could be modified to virtual channel connections (VCCs) of Sullivan and still operate to differentiate ONUs on the network.

With respect to claims 2 and 5, Blahut further discloses that ATM cells are filtered by their VC fields (305 of Figure 3).

Blahut fails to disclose channel data fields use to indicated a change in the broadcast of data including added, deleting, or rearranging broadcast data and a channel position field to indicate the start and end position of each broadcast channel fields.

Kato discloses that the program control data is designed to send updates to the configuration of data channels (column 9, lines 23-65) and the a PID-P, PID-aM, PID-aV field (Figure 17) is used to indicated the start and end of broadcast information.

One of ordinary skill in the art would realize the benefit of a simpler and more flexible video broadcast system by replacing the splitter (105 of Figure 1) in Blahut with the processing method of Kato added to the ONU (106 of Figure 1) in Blahut. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the encoding and filtering by PID as taught by Kato to enhance the processing of the video system of Blahut.

Blahut fails to disclose virtual channel connections (VCCs) and filtering based on VCCs.

Sullivan discloses an ATM system that uses a optical network fibers (32, 34, 35 of Figure 1; column 4, lines 13-20; column 7, lines 18-22) to route virtual tunnels with virtual channel connections (column 4, lines 64-67).

Sullivan realizes the benefit of differentiated level of services by using virtual tunnels encoded with virtual channel connections (column 2, line 65 – column 3, line 4). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention that the virtual circuits (VCs) of Blahut could be modified to virtual channel connections (VCCs) of Sullivan and still operate to differentiate ONUs on the network.

With respect to claim 3, Blahut further discloses that ATM cells are filtered by their VC fields (305 of Figure 3) by the CPU (302 of Figure 3).

Blahut fails to disclose channel data fields use to indicated a change in the broadcast of data including added, deleting, or rearranging broadcast data and a channel position field to indicate the start and end position of each broadcast channel fields.

Kato discloses that the program control data is designed to send updates to the configuration of data channels (column 9, lines 23-65) and the a PID-P, PID-aM, PID-aV field (Figure 17) is used to indicated the start and end of broadcast information. One of ordinary skill in the art would realize that the CPU (302 of Figure 3) could be adapted to perform this processing.

One of ordinary skill in the art would realize the benefit of a simpler and more flexible video broadcast system by replacing the splitter (105 of Figure 1) in Blahut with the processing method of Kato added to the ONU (106 of Figure 1) in Blahut. Thus it

would have been obvious to one of ordinary skill in the art at the time of the invention to use the encoding and filtering by PID as taught by Kato to enhance the processing of the video system of Blahut.

Blahut fails to disclose virtual channel connections (VCCs) and filtering based on VCCs.

Sullivan discloses an ATM system that uses a optical network fibers (32, 34, 35 of Figure 1; column 4, lines 13-20; column 7, lines 18-22) to route virtual tunnels with virtual channel connections (column 4, lines 64-67). One of ordinary skill in the art would realize that the CPU (302 of Figure 3) could be adapted to perform this processing.

Sullivan realizes the benefit of differentiated level of services by using virtual tunnels encoded with virtual channel connections (column 2, line 65 – column 3, line 4). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention that the virtual circuits (VCs) of Blahut could be modified to virtual channel connections (VCCs) of Sullivan and still operate to differentiate ONUs on the network.

With respect to claim 6, Blahut further discloses that MPEG2 video data is placed in the ATM cells (column 6, lines 25-32).

Blahut fails to disclose a group of PIDs for processing a portion of the ATM payload cell that corresponds to a single channel from the ATM cells.

Kato discloses a method for processing video broadcast data with packets containing PID information (Figure 2; Figure 14; column 8, lines 50-67; column 9, lines

7-15). One of ordinary skill in the art would realize that using the PID of Kato with the MPEG data of incoming ATM cells as taught in Blahut would be reasonable plausible.

One of ordinary skill in the art would realize the benefit of a simpler and more flexible video broadcast system by replacing the splitter (105 of Figure 1) in Blahut with the processing method of Kato added to the ONU (106 of Figure 1) in Blahut. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the encoding and filtering by PID as taught by Kato to enhance the processing of the video system of Blahut.

6. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blahut in view of Kato and further in view of Sullivan and further in view of Kumar et al. (US 7,085,279 hereafter Kumar).

With respect to claim 7, Blahut discloses a method for classification of digital channel data from a video server. The disclosed system has an optical network unit, ONU, (106 of Figure 1, 106 of Figure 3) that receives an optical signal (110-1, 111-1 of Figure 1) originated from an optical line terminal, OLT, (103 of Figure 1). The ONU must contain an optical signal converter in order for the ONU to correctly receive optical data and process the data with several digital processing devices (305, 306 of Figure 3). Blahut's system also has a VC ATM cell classifier for header detection and payload processing (305, 306 of Figure 3; where the VC filter classifies ATM cells by their VC header data and the MPEG2 decoder processing the payload portion of the ATM cells; column 6, lines 21-35). A controller (301, 302, 304 of Figure 3) is employed to direct the

ONU to select the broadcast video data according to a subscriber's command (column 6, lines 3-16).

Blahut fails to disclose a group of PID (Program ID) analyzers for processing a portion of the ATM payload cell that corresponds to a single VCC, then extracting the PID for every broadcast channel and outputting the broadcast channel. Blahut also fails to disclose a switch that take multiple broadcast channel data from PID analyzers and selects the broadcast channel chosen by a subscriber and that the controller updates broadcast channel programming by processing header data from the ATM cells.

Kato discloses a method for processing video broadcast data with packets containing complete descriptions of all program information (Figure 2; Figure 15; Figure 17) and PID information (Figure 2; Figure 14; column 8, lines 50-67; column 9, lines 7-15) and a multiplexer or switch (9 of Figure 13) to select a broadcast channel from a group of broadcast channels (7a, 7b, 7n, 8 of Figure 13; column 1, lines 18-35). Kato's method includes encoding a PID in the header of a packet (Figure 14). One of ordinary skill in the art would realize that using the PID of Kato to perform further filtering of incoming ATM cells as taught in Blahut would be reasonable plausible.

One of ordinary skill in the art would realize the benefit of a simpler and more flexible video broadcast system by replacing the splitter (105 of Figure 1) in Blahut with the processing method of Kato added to the ONU (106 of Figure 1) in Blahut. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the encoding and filtering by PID as taught by Kato to enhance the processing of the video system of Blahut.

However, Blahut fails to specifically disclose virtual channel connections (VCCs) and filtering based on VCCs.

Sullivan discloses an ATM system that uses a optical network fibers (32, 34, 35 of Figure 1; column 4, lines 13-20; column 7, lines 18-22) to route virtual tunnels with virtual channel connections (column 4, lines 64-67).

Sullivan realizes the benefit of differentiated level of services by using virtual tunnels encoded with virtual channel connections (column 2, line 65 – column 3, line 4). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention that the virtual circuits (VCs) of Blahut could be modified to virtual channel connections (VCCs) of Sullivan and still operate to differentiate ONUs on the network.

Blahut fails to disclose a computer readable medium or memory medium with code to perform his method.

Kumar, in the same field of endeavor, discloses a computer readable medium storing a program to perform a connection setup over a packet network in conjunction with a switching network. The computer-readable medium is an electronic, magnetic, optical, or other physical device or means that can be contain or store a computer program for use by or in connection with a computer-related system or method (column 7, lines 51-67). One skilled in the art would have clearly recognized that the method of Blahut would have been implemented in a software module. The implemented software would perform the function with less expense and more flexibility. Therefore, it would have been obvious to have use the technique in Blahut as and implement it as taught by

Kumar in order to reduce cost and improve the adaptability and flexibility of the networking system.

With respect to claim 8, Blahut further discloses that ATM cells are filtered by their VC fields (305 of Figure 3).

Blahut fails to disclose channel data fields use to indicated a change in the broadcast of data including added, deleting, or rearranging broadcast data and a channel position field to indicate the start and end position of each broadcast channel fields.

Kato discloses that the program control data is designed to send updates to the configuration of data channels (column 9, lines 23-65) and the a PID-P, PID-aM, PID-aV field (Figure 17) is used to indicated the start and end of broadcast information.

One of ordinary skill in the art would realize the benefit of a simpler and more flexible video broadcast system by replacing the splitter (105 of Figure 1) in Blahut with the processing method of Kato added to the ONU (106 of Figure 1) in Blahut. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the encoding and filtering by PID as taught by Kato to enhance the processing of the video system of Blahut.

Blahut fails to disclose virtual channel connections (VCCs) and filtering based on VCCs.

Sullivan discloses an ATM system that uses a optical network fibers (32, 34, 35 of Figure 1; column 4, lines 13-20; column 7, lines 18-22) to route virtual tunnels with virtual channel connections (column 4, lines 64-67).

Sullivan realizes the benefit of differentiated level of services by using virtual tunnels encoded with virtual channel connections (column 2, line 65 – column 3, line 4). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention that the virtual circuits (VCs) of Blahut could be modified to virtual channel connections (VCCs) of Sullivan and still operate to differentiate ONUs on the network.

With respect to claim 9, Blahut further discloses that MPEG2 video data is placed in the ATM cells (column 6, lines 25-32).

Blahut fails to disclose a group of PIDs for processing a portion of the ATM payload cell that corresponds to a single channel from the ATM cells.

Kato discloses a method for processing video broadcast data with packets containing PID information (Figure 2; Figure 14; column 8, lines 50-67; column 9, lines 7-15). One of ordinary skill in the art would realize that using the PID of Kato with the MPEG data of incoming ATM cells as taught in Blahut would be reasonable plausible.

One of ordinary skill in the art would realize the benefit of a simpler and more flexible video broadcast system by replacing the splitter (105 of Figure 1) in Blahut with the processing method of Kato added to the ONU (106 of Figure 1) in Blahut. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the encoding and filtering by PID as taught by Kato to enhance the processing of the video system of Blahut.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. O'Connor whose telephone number is 571-270-1081. The examiner can normally be reached on 9:00AM-6:30PM, M-F, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian T. O'Connor
August 1, 2007

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